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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,191	04/04/2005	Ulf Elman		9626

7590 10/06/2006

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EXAMINER

NGUYEN, TU T

ART UNIT PAPER NUMBER

2877

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/530,191

Applicant(s)

ELMAN, ULF

Examiner

Tu T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 04/04/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Abstract

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1) Claim 1, lines 7-8; Claim 4, lines 6-7, the phrase "means to detect the resulting amplitude modulation at more than one multiple of said frequency f " is not clear. What is "the resulting amplitude modulation"? Do applicant mean the amplitude of the "modulated reflected light" or the "modulated input light" or the "modulated signal" itself? Further, the phrase "more than one multiple of said frequency f " is not clear. Is there more than one frequency f ? Since the limitation is not clear, examiner assumes that the claimed means is used for detecting the amplitude of the reflected light.

2) Claim 2, lines 3-4, the phrase "to select and wavelength modulate light of at least one wavelength" is not clear. It is not clear what and how to select. Does the system select the "wavelength" or the "modulation frequency f "?

Claims 3,5-10 are also rejected as being depended on a rejected claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finkle et al (6,459,083) in view of Barbour (5,557,261).

With respect to claims 1,4, Finkle discloses a system for measuring a road condition. The system comprises: a reflectance spectrometer EE (fig 1) arranged to detect reflectance properties R1 and R2 (fig 1) of a surface at at least one wavelength λ_1 (fig 1) and using said reflectance properties to determine a condition of the road surface (abstract), wherein the reflectance spectrometer is a wavelength modulation spectrometer which modulates the wavelength of light at a frequency f (column 3, lines 1-5).

Finkle does not disclose a means for detecting the amplitude of modulated signals. Barbour discloses an ice monitoring system. The system comprises: a means for determining a presence and thickness of ice on a surface by detecting the amplitude of the modulated signals (column 4, lines 65-67 and column 7, lines 9-15). It would have been obvious to modify Finkle with the means for detecting the amplitude of the modulated signals to calculate the presence and thickness of the ice on a surface.

With respect to claim 2, Finklele discloses the claimed invention except for a wavelength selective system comprising at least one of a chopper wheel, a tuning fork optical chopper, a dispersive prism, a grating, an acousto optic modulator or a dielectric filter. However, the claimed wavelength selective system would have been known in the art. It would have been obvious to modify Finklele with the known wavelength selective system to select any desired wavelength for measuring different characteristics or conditions of the road.

With respect to claim 3, Finklele discloses the claimed invention except for a wavelength modulated laser. Since Finklele discloses modulating M1 (fig 1) the wavelength λ_1 (fig 1) of light E1 (fig 1). It would have been obvious to combine the modulating system with the light source into a wavelength modulated laser as claimed to reduce the size of the system.

With respect to claim 5, Finklele discloses modulating M1 (fig 1) the input light signal (column 5, lines 35-40).

With respect to claim 6, Finklele discloses the claimed invention except for modulating the reflected signal. However, it would have been obvious a design choice to modify Finklele by modulating the reflected signals as claimed to measure different characteristics of the road.

With respect to claim 7, Finklele discloses an intensity modulation (column 3, lines 2-3).

With respect to claim 8, Finklele discloses measuring more than one wavelength λ_1 , λ_2 (fig 1).

With respect to claim 9, Finklele discloses the claimed invention except for not explicitly disclose detecting ice or water on the road. However, it would have been obvious to modify Finklele to measure different characteristics of the road for different intended uses.

With respect to claim 10, Finklele discloses the claimed invention except for an indicator device. Barbour discloses a monitor 16 (fig 3) for display the location at which the ice is detected (column 7, lines 19-22). It would have been obvious to modify Finklele with the monitor indicator taught by Barbour to display the location of the ice to help the driver to avoid any icy spot.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tu T. Nguyen
Primary Examiner
Art Unit 2877

09/25/2006